



Chornobyl Research Program
SCIENTIFIC AND MANAGEMENT PROGRESS REPORT
01 February 2001 to 30 April 2001

Submitted by:

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I. Progress on "Epidemiologic Studies of Radiation Induced Thyroid Disease in Belarus (BelAm Thyroid Project) and Ukraine (UkrAm Thyroid Project)

A. BelAm Thyroid Project

By the end of the first screening cycle in February, 2001, a total number of 11,834 subjects were enrolled in the Belarusian arm of the study and screened for the first time. Among these subjects, 64 had a history of thyroid surgery prior to their initial screening examination, 49 with thyroid cancer, and 15 with benign thyroid adenomas. A total of 56 malignant thyroid neoplasms and 9 benign thyroid neoplasms were newly diagnosed. More than half of the subjects were screened at the fixed center in Minsk, while 10 percent were seen at the fixed center in Gomel, and 36 percent were examined by mobile teams. Data entry is from 89% to 95% complete for most of the data collection forms for subjects who have been screened; however, as of the end of March 2001 there was a large backlog in final summary forms, awaiting the review of laboratory or pathology results. The second screening cycle began in April 2001.

In order to be able to provide funds to reimburse study participants for their travel expenses in reaching the screening sites, a contract was awarded to the Belarusian Red Cross to manage these funds and provide quarterly allocations to the project agent for purchase of food items and other necessities (equivalent to US \$5 for each subject). The distribution of food packages is continuing during the second screening cycle.

B. UkrAm Thyroid Project

A total of 13,251 subjects were recruited and examined in the first screening cycle which ended in mid-December 2000. About 25 percent of the subjects were examined in the fixed center in Kiev, while 75 percent were examined by mobile teams. As of 28 February 2001, 27 newly diagnosed thyroid carcinomas were identified in the study cohort; there were 9 benign thyroid neoplasms. A total of 7 subjects had a history of thyroid surgery prior to screening, 5 with thyroid malignancies, and 2 with benign thyroid adenomas. The second screening cycle began in March 2001.

C. Other Progress

A three-day training session was held in each country during the first two weeks of February 2001. All study staff attended a required session on the ethical treatment of human subjects. Individual sessions were conducted for interviewer training, laboratory staff training, and clinical staff training. These individual sessions involved review and re-training in the basic operations of the study, and instruction in the administration and completion of the new unified forms and questionnaires. The training sessions were jointly chaired by members of the American research team and their Ukrainian/Belarusian counterparts.

A joint thyroid dosimetry meeting was held in Minsk in March 2001. Problems that were considered included: (1) the estimation of the contribution of the short-lived radioiodines (mainly ^{133}I) to the thyroid dose on the basis of direct thyroid measurements conducted on early evacuees; (2) the development of a model of atmospheric transport and deposition in order to predict the duration and magnitude of the deposition of ^{131}I on the ground over several days; and (3) the manner in which the thyroid volumes of the subjects at the time of the accident could be estimated.

Plenary sessions are planned in both countries in June 2001. Among the important issues for discussion are the following: close monitoring of response rates during the second screening cycle; results of the pilot study of dosimetry interviews of 100 mothers in each country; completing FNA procedures for subjects referred during Cycle 1 and who have not yet appeared for the procedure; and the different rates of referral for FNA and diagnosis of thyroid cancer between the two arms of the study.

II. Progress on "Study of Leukemia, Lymphoma, and Related Disorders in Ukrainian Clean-up Workers Following the Chomobyl Accident"

Site visits were made by members of the U.S. research team in February and March 2001 to review progress on the study; to provide consultation on development of the data management section of the operations manual, quality control of the abstracting, data entry processes, and routine editing procedures; and to assist in the development of the hematology section of the operations manual. As of 31 March 2001 a total of 23,298 admissions for leukemia and ancillary diagnoses were abstracted from hospital records in the study Oblasts.

Efforts are being made to validate the newly proposed method of dose reconstruction, called RADRUE. For that purpose, the doses received by 50 Ukrainian liquidators will be estimated using EPR and RADRUE. In addition, future work with the U.S. National Institute of Standards and Technology (NIST) is planned in order to calibrate the ^{137}Cs irradiation source employed in Kyiv for EPR measurements and to carry out intercomparison exercises on irradiated teeth. Another type of dosimetric intercomparison that has been performed is to examine the results of the FISH assay with official doses for persons with official doses greater than 300 mGy. The first comparison of the results of FISH analyses with official dose

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values showed relatively good agreement, and more comparisons are planned. Also, the archives of the Ministry of Defense are actively searched in order to obtain information on the military liquidators that is not available in the Chernobyl State Registry.

III. The quarterly progress report for each project is enclosed.